

A NEW CATFISH OF THE GENUS *EPAPTERUS*
(SILURIFORMES: AUCHENIPTERIDAE) FROM THE
ORINOCO RIVER BASIN

Richard P. Vari, Susan L. Jewett, Donald C. Taphorn,
and Carter R. Gilbert

Abstract.—A new species of auchenipterid catfish, *Epapterus blohmi*, is described from the central portion of the llanos of the Orinoco River basin. It is distinguished from *E. dispilurus* and *E. chaquensis*, the only other described species of the genus, by the presence of a dusky band that extends across the dorsal portion of the procurrent caudal-fin rays and dorsal lobe of the caudal fin. The congeneric species have a discrete pigmentation patch in the center of each caudal-fin lobe. Meristic and morphometric differences further separate the species. Both *E. blohmi* and *E. dispilurus* demonstrate pronounced sexual dimorphism in the form of the anterior rays of the anal fin, position of the urogenital opening, form of the dorsal-fin spine, and the degree of ossification of the maxillary barbel. *Epapterus dispilurus*, previously known only from the upper Rio Solimoës is reported from the central portion of the Rio Amazonas basin. The known range of *E. chaquensis*, described from Argentina, is extended into Paraguay.

Among the fishes described by Cope (1878) based on the Orton collection of fishes from the Peruvian Amazon was a monotypic genus of auchenipterid catfish, *Epapterus*, that was distinguished by its endentulous jaws, lack of an adipose dorsal fin, and high number of anal-fin rays. Only two subsequent collections of the single contained species, *E. dispilurus*, were reported on during the next century. *Euanemus longipinnis*, described by Steindachner (1881) from the Peru-Brazil border region, was placed into the synonymy of *Epapterus dispilurus* by Eigenmann and Eigenmann (1888) who, in a subsequent paper (1890), redescribed *E. dispilurus* on the basis of Steindachner's specimens. More recently, Fowler (1939) recorded a single specimen from Cantamana in the Río Ucayali drainage of Peru. The other citations of *E. dispilurus* were typically literature compilations based on the above records. A second species, *Epapterus chaquensis*, endemic to the Río Paraguay basin, was described from the Chaco Province of Argentina by Risso and Risso (1962). Recent collecting activities in the central portions of the llanos (savannas) of the Orinoco River basin have revealed a third species of *Epapterus*, described herein, that is evidently broadly distributed in the sampled region.

Vertebral counts were taken from radiographs and include all free elements posterior of the Weberian apparatus inclusive of the complex terminal vertebra. Numbers in parentheses after a particular vertebral count are the number of specimens with that count. The anteriormost two anal-fin rays of males are not apparent when counts are made directly from the specimen but can be seen on radiographs. Greatest body depth was taken slightly anterior of the anal-fin origin. Gill-raker, branchiostegal ray, and rib counts were taken from cleared and stained specimens. Length of the maxillary barbel and subunits of the head are presented



Fig. 1. *Epapterus blohmi*, holotype, MBUCV V-14100.

as proportions of head length (HL). Head length and other measurements of body parts are discussed as proportions of standard length (SL). Holotype counts and proportions are presented in square brackets.

Specimens examined for this study are deposited in the following institutions: American Museum of Natural History, AMNH; Academy of Natural Sciences of Philadelphia, ANSP; British Museum (Natural History), BMNH; Field Museum of Natural History, FMNH; Museo de Biología, Universidad Central de Venezuela, MBUCV; Museo de Ciencias Naturales de Guanare (at Universidad Nacional Experimental de los Llanos Occidentales Ezequiel Zamora, UNELLEZ), MCNG; Museum of Comparative Zoology, MCZ; Florida State Museum, University of Florida, UF; and National Museum of Natural History, Smithsonian Institution, USNM.

Epapterus blohmi, new species

Fig. 1

Holotype.—MBUCV V-14100, 74.3 mm SL, female, collected by R. P. Vari, S. L. Jewett, A. Machado-Allison, L. Aguana and O. Flint, 19 Jan 1983, in Laguna Los Guácimos, a broad shallow lagoon located on Fundo Pecuario Masaguaral, Guarico State, Venezuela (approx. 08°34'N, 67°35'W).

Paratypes.—46 specimens, 55.9–85.1 mm SL, all females unless otherwise noted. 19 specimens taken with holotype: MBUCV V-14101, 3 specimens, 1 male, 65.5–67.0 mm SL; AMNH 55210, 2 specimens, 69.0–75.0 mm SL; ANSP 152045, 2 specimens, 65.5–72.0 mm SL; BMNH 1983.9.20:1–3, 3 specimens, 65.3–67.3 mm SL; FMNH 94854, 2 specimens, 69.3–74.3 mm SL; USNM 260637, 7 specimens (2 cleared and counterstained for cartilage and bone), 2 males, 65.3–74.7 mm SL. 13 specimens collected by A. Machado-Allison, L. Aguana and R. P. Vari, 20 Jan 1983, Río Portuguesa at Camaguan, Guarico State, Venezuela (approx. 08°07'N, 67°36'W); MBUCV V-14102, 5 specimens, 64.3–69.8 mm SL; USNM 260638, 8 specimens (3 cleared and counterstained for cartilage and bone), 2 males, 61.6–68.8 mm SL. 9 specimens, UF 32119, 1 male, 59.2–85.1 mm SL, collected by C. R. Gilbert and D. C. Taphorn, 22 Mar 1981, Caño el Ajero at bridge on road to Guayabal, 11 km NNE of San Fernando de Apure, Guarico State, Venezuela. 5 specimens, MCNG 3760, 55.9–63.1 mm SL, collected by D. C. Taphorn, C. G. Lilyestrom, C. R. Gilbert and R. Franz, 20 Mar 1981, Modulo de la UNELLEZ, pond along southern dike, Apure State, Venezuela.

Non-type specimens examined.—103 specimens, all females or immatures un-

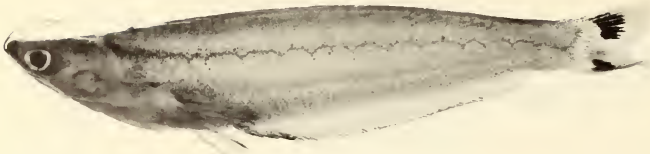


Fig. 2. *Epapterus dispilurus*, USNM 261422, 73.9 mm SL.

less otherwise noted. 77 specimens collected by O. Castillo, R. P. Vari and crew, 24 Jan 1983, Modulos de Mantecal, Apure State, Venezuela (approx. 07°39'N, 69°00'W); USNM 257985, 66 specimens, 9 males, and USNM 257983, 11 specimens, 5 males. 17 specimens, 4 males, USNM 257984, collected by O. Castillo, R. P. Vari, S. L. Jewett and crew, 22 Jan 1983, Río el Canito where crossed by road from San Fernando de Apure to Cunaviche, Apure State, Venezuela (approx. 07°28'N, 67°39'W). 2 specimens, MCNG 3599, collected by D. C. Taphorn, C. S. Lilyestrom and C. Olds, 16 Mar 1981, Modulo de la UNELLEZ, pond along southern dike, Apure State, Venezuela. 7 specimens, MCNG 4103, collected by D. C. Taphorn and C. G. Lilyestrom, 16 Jun 1981, locality as for preceding.

Diagnosis.—*Epapterus blohmi* shares a suite of distinctive characters with *E. dispilurus* and *E. chaquensis* that is evidently derived within the Auchenipteridae. These characters include: the edentulous premaxillae and dentaries, the reduced rayed dorsal fin, the elongate body, the absence of an adipose dorsal fin, and a high number of anal-fin rays. Although the above characters are specialized relative to the generalized conditions in the Auchenipteridae, at least two, the absence of an adipose dorsal fin and the high anal-fin ray count, have evidently been achieved independently in some other lineages of the family (see "Remarks").

Epapterus blohmi has a distinctive band of dark pigmentation that extends from the dorsal margin of the caudal peduncle, along the dorsal procurrent rays and across the dorsal lobe of the caudal fin to its posterior margin (Fig. 1). The caudal pigmentation pattern in *E. dispilurus* and *E. chaquensis*, in contrast, consists of a discrete patch of dark chromatophores in the center of each caudal-fin lobe (Figs. 2 and 3). *Epapterus blohmi* is also distinguishable by its long maxillary barbel (1.66–1.85 in HL versus 1.46 in *E. chaquensis* and 1.35–1.58 in *E. dispilurus*). The 49 to 57 anal-fin rays in *E. blohmi* further separate that species from *E. dispilurus*, which has 58 to 63 anal fin rays.

Description.—Body elongate, distinctly compressed, head depressed. Dorsal profile of head flat or barely convex, dorsal profile of body from rear of head to end of caudal peduncle slightly convex. Ventral profile of head slightly convex. Ventral profile of body gently curved to anal-fin origin. Pseudopenis of male extending along proximal three-quarters of anterior margin of third anal fin ray (Fig. 5). Anal-fin base gently convex to caudal peduncle.

Greatest body depth at anal-fin origin 0.17–0.22 [0.19], males typically more slender than comparably sized females of similar condition; snout tip to dorsal-fin origin 0.20–0.23 [0.20]; snout tip to pelvic-fin origin 0.31–0.35 [0.33]; snout tip to anal-fin origin 0.42–0.46 [0.44]. Dorsal fin greatly reduced overall, with a



Fig. 3. *Epapterus chaquensis*, USNM 232304, 85.2 mm SL.

spine and two rays, second ray often reduced. Dorsal-fin spine non-serrate, sexually dimorphic, slender in females, much thicker in males, particularly proximally; length of spine 0.03–0.05 [0.03]. First dorsal-fin ray typically slightly longer than spine. Adipose dorsal fin absent. Pectoral fin with 1 spine and 9 to 11 rays [10]; pectoral-spine length 0.12–0.14 [0.13], medial margin of spine with series of serrations along its distal three-quarters; rayed portion of fin pointed; longest pectoral-fin ray typically longer than spine, length of longest pectoral-fin ray 0.12–0.15 [0.14]; tip of pectoral fin not reaching to origin of pelvic fin. Pelvic fin pointed, with 14 to 16 rays [15], lateralmost ray longest, length of longest pelvic-fin ray 0.18–0.23 [0.22]; pelvic fin with broad posteroventrally sloping base; origin distinctly dorsal of ventral margin of body. Anal-fin margin in females smoothly convex anteriorly, straight for much of its length and convex posteriorly; third and fourth anal-fin rays in males greatly developed (see “Sexual dimorphism”), remainder of fin as in females; length of base of anal fin 0.51–0.56 [0.52]; anal-fin rays 49 + 57 [57]. Caudal fin distinctly emarginate; principal caudal-fin rays 9 + 8; 12 to 18 dorsal procurent rays of caudal fin evident in cleared and stained specimens, 7 to 12 visible in unstained specimens; 10 to 12 ventral procurent rays of caudal fin, of which 4 to 7 are visible externally. Ribs on each side 5. Number of vertebrae 42 (9), 43 (28), 44 (6) [44].

Head depressed, anterior margin broadly rounded in dorsal view; head length 0.16–0.21 [0.18]. Lower jaw very slightly longer than upper; no teeth present on premaxillae, dentaries, vomer, palatines or lower pharyngeals; a broad patch of conical teeth on round, convex fifth upper pharyngeal tooth plate. Snout length 0.36–0.43 [0.39]. Orbital margin not free, horizontal width of orbit 0.25–0.32 [0.30]. Length of bony postorbital portion of head 0.34–0.40 [0.36]. Interorbital region gently convex, width 0.39–0.46 [0.44]. Nostrils of each side of head separated by a distance equal to 4.5 times diameter of posterior nostril; anterior nostril somewhat tubular, located on dorsal surface of snout, above lip; posterior larger, oval. Gill rakers on first arch (in cleared and stained specimens) long, slender; 12 to 15 above, 18 to 20 below, total 31 to 35. Branchiostegal rays 7. Gill membranes broadly attached to isthmus. Maxillary barbels rounded in cross section, elongate, length 1.66–1.83 of HL [1.75], reaching nearly to or beyond origin of pelvic fin; degree of ossification of proximal portion of barbel sexually dimorphic (see “Sexual dimorphism”). Mental barbels four, rounded, arranged in arch along ventral surface of jaw, barbels reaching nearly to vertical through pelvic-fin origin.

Lateral line complete, dendritic, with short side branches at irregular intervals, divided on caudal fin into 2 or 3 branches that run through lightly ossified tubes.

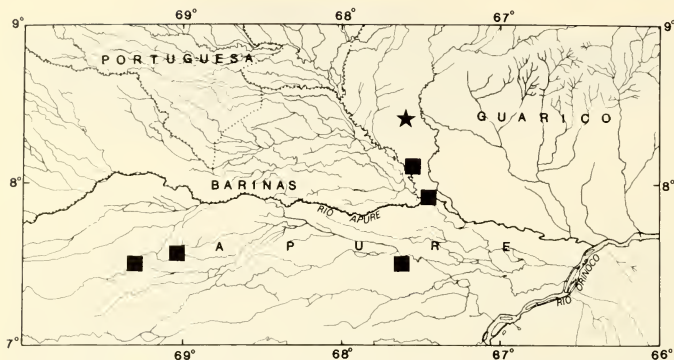


Fig. 4. Geographic distribution of *Epapterus blohmi*, new species, in the central portions of the Río Orinoco basin (Star = type locality; some symbols represent more than one lot of specimens).

Color in preservative.—Overall coloration tan, recently preserved specimens with distinct yellow fat deposits along base of anal and caudal fins. Dorsal surface of head with scattered chromatophores other than along middorsal line. Dense patch of pigmentation on area between each anterior and posterior nostril; patch sometimes partially envelopes anterior nostril. Large, irregular middorsal patch of pigmentation posterior to fontanel. Region proximate to middorsal line of body relatively densely marked with a band of discrete chromatophores; chromatophore field denser in region of dorsal-fin origin. Dorsal chromatophore field continuous posteriorly with pigmented band on dorsal procurrent rays and dorsal caudal-fin lobe. Elongate discrete patch of pigmentation typically present along anterior section of lateral line; line of pigmentation of varying degrees of intensity and development sometimes extending posteriorly along lateral line, reaching to base of middle rays of caudal fin in some individuals. Barbels pigmented, more so proximally. Caudal fin with distinct band of chromatophores extending from dorsal procurrent rays to posterior margin of middle rays of dorsal lobe of fin (Fig. 1). Smaller individuals (MCNG 4103) with a crescent-shaped pigmentation field along base of ventral lobe of caudal fin; pigmentation patch continuous with band across dorsal lobe of fin. Other fins of adults hyaline or with only few scattered chromatophores, particularly on pectoral fin. Some smaller individuals with series of chromatophores along anal-fin margin, and band of large chromatophores along ventral portion of body wall above anal fin.

Color in life.—Overall coloration whitish, somewhat translucent, with a slight greenish tint in some individuals; pigmentation otherwise as in preserved specimens.

Sexual dimorphism.—*Epapterus blohmi* demonstrates a high degree of sexual dimorphism in a number of the morphological systems described above. Differences between the sexes in the greatest depth of the body, although obvious within population samples, does not always discriminate the sexes from different pop-



Fig. 5. Geographic distribution of *Epapterus* species (Square = *E. blohmi* [see also Fig. 4]; Diamonds = *E. dispilurus*; Stars = *E. chaquensis*).

ulations. The three most obvious sexual differences involve the form of the dorsal-fin spine, degree of ossification of the maxillary barbel, and the modifications of the anterior portion of the anal fin in males.

The dorsal-fin spine in females of *E. blohmi* tapers rapidly from its base to a relatively slender non-serrate spine with a somewhat blunt tip. The males of that species, in contrast, have a dorsal-fin spine that is about twice as thick proximally as that in the females, and only tapers in its distal one-quarter. Although the spines in the sexes do not differ in relative length in the available specimens, the differences in overall spine form are sufficiently pronounced to permit sexing of individuals based solely on dorsal-fin spine form.

Sexual dimorphism in the maxillary barbel of auchenipterids was commented upon in *Ceratocheilus* (= *Auchenipterus*) (Miranda Ribeiro, 1918) and *Auchenipterus* (Myers 1947; Boeseman 1952; Miranda Ribeiro 1968; Mees 1974). *Epapterus blohmi* also demonstrates a marked degree of sexual dimorphism in the degree of maxillary barbel ossification. In females the ossified portion of the barbel does not extend posteriorly beyond the vertical through the posteroventral margin of the ventral process of the lateral ethmoid. The ossified section of the barbel in females is relatively slender with no external demarcation at the terminus of the ossified region. Males of *E. blohmi*, in contrast, have a more pronounced ossification of the barbel. The ossified region of the barbel extends posteriorly to the

posterior third of the orbit and is distinctly thickened proximally, with a well-marked transition in the thickness of the barbel at the posterior limit of the ossification. This transition is comparable to that illustrated in *Auchenipterus nuchalis* by Mees (1974, Fig. 3), but differs in not having the barbel of males shortened.

The final and most complex of the noted sexually dimorphic characters in *Epapterus blohmi* involves the form of the anterior anal-fin rays. Sexual dimorphism in the external morphology of the anterior portion of the anal fin was reported in the auchenipterid genera *Auchenipterichthys* (Kner, 1858), *Pseudoauchenipterus* (Fisher, 1917), *Ceratocheilus* (= *Auchenipterus*) (Miranda Ribeiro, 1918), *Auchenipterus* (Miranda Ribeiro, 1968), and *Asterophysus*, *Pseudoauchenipterus*, *Auchenipterichthys*, *Tatia* and *Ceratocheilus* von Ihering, 1937). More recently Mees (1974) cited many of those reports, expanded on some, and also noted the presence of a less pronounced form of the modification in *Pseudotatia*, without, however, analyzing the associated osteological alterations.

Females of *Epapterus blohmi* do not possess any alterations of the form of the anterior anal-fin rays (Fig. 6A). The anal-fin rays in females of that species increase in size from the first to the third or fourth, with the latter elements similar in size to the neighboring posterior rays. Other than for the conjunction of the first and second proximal pterygiophores, all of those supporting elements are separate and of approximately the same size. Males of the species have dramatic modifications of the system (Fig. 6B). The first and second anal-fin rays are notably smaller than their counterparts in females and the other anal-fin rays in males. The most pronounced modifications involve the third and fourth anal-fin rays, which are greatly enlarged both relative to the remaining anal-fin rays and to their homologues in females. Each ray is thickened and has a fusion of its segments that results in a total absence of externally visible junctions between the segments of the third ray, and with only slight residual demarcations of the regions of contact apparent on the fourth ray (Fig. 6B). Proximally both of the rays have enlarged posterior processes which serve as expanded areas of attachment for the muscles associated with the movement of the rays. The proximal pterygiophores are also modified with the five anteriormost elements being conjoined, thickened and lengthened relative to their more posterior counterparts.

Associated with this modification of the anal-fin rays is a shift in the position of the genital pore of the male onto the distal portion of the third ray, resulting in a pseudopenis. A similar development of the pseudopenis has been noted in *Auchenipterus nuchalis* (Mees, 1974), and is evidently a modification permitting oviducal fertilization as discussed in the auchenipterid genus *Trachycorystes* by von Ihering (1937).

Relationships.—Our present understanding of phyletic relationships within the Auchenipteridae is quite nebulous, with generic definitions an apparent amalgam of generalized and specialized characters that may not define natural assemblages. The only evidently specialized characters unique to the three species of *Epapterus* within the Auchenipteridae are the lack of dentition on the premaxillae and dentaries, and the reduction in degree of development of soft portions of the dorsal fin. *Epapterus* also has several other specializations, including the absence of an adipose dorsal fin, lengthening of the anal fin, and the dorso-ventral depression of the cranium. Although these latter three characters are evidently derived

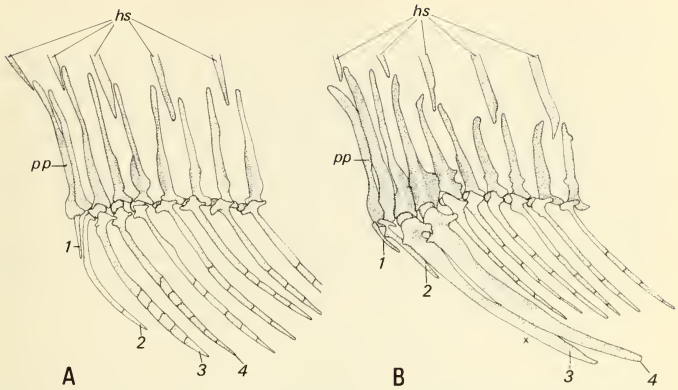


Fig. 6. Anterior portion of anal fin of (A) female and (B) male *Epapterus blohmi*, USNM 260638. Anal fin rays 1 to 4 numbered. Position of genital pore of male (B) indicated by an x. Abbreviations: pp - anteriormost proximal pterygiophore; hs - hemal spine.

relative to the conditions most common in the Auchenipteridae, they also occur incongruently in other assemblages of genera in the family.

An adipose dorsal fin is similarly absent in the nominal auchenipterid genera *Trachelyopterus* Valenciennes (in Cuvier and Valenciennes 1840), *Trachelopterichthys* Bleeker (1863), *Trachelyichthys* Mees (1974) and *Ceratocheilus* Miranda Ribeiro (1918). The type specimen of *Ceratocheilus* is apparently an aberrant individual of *Auchenipterus nuchalis*, a species that typically has an adipose fin (Mees 1974:17, 20), and *Ceratocheilus* is thus not pertinent to this discussion. Although the absence of an adipose dorsal fin is a derived condition within the Auchenipteridae, Mees questioned the naturalness of the subgroup of auchenipterids defined by the absence of an adipose fin. He rather suggested that the relationships of *Epapterus*, which lacks an adipose fin, were with *Auchenipterus* Valenciennes (in Cuvier and Valenciennes, 1840) and *Pseudepapterus* Steindachner (1915), both of which possess an adipose fin, rather than with *Trachelyopterus*, *Trachelopterichthys*, and *Trachelyichthys* in which the fin is absent. Evidently derived characters common to *Epapterus*, *Pseudepapterus*, and *Auchenipterus* include an increased number of anal-fin rays, a dorso-ventrally depressed cranium and an elongate body, modifications that are specialized relative to the typical conditions in the Auchenipteridae. Furthermore, as noted by Mees (1974:112), both *Pseudepapterus* and *Auchenipterus* have a reduced adipose dorsal fin. Such a condition may be an intermediate state in the transition series that culminates in the absence of the fin in *Epapterus*. The other auchenipterid genera in which the adipose dorsal fin is absent (*Trachelyopterus*, *Trachelopterichthys*, and *Trachelyichthys*), in contrast, have the rounded cranial form generalized for the family. Of these genera, only *Trachelopterichthys* has an increase in the

number of anal-fin rays and a moderate elongation of the body reminiscent of the condition in *Epapterus* and its hypothesized close relatives. There is, therefore, some incongruity in the distribution of these sets of evidently derived characters within the Auchenipteridae. Nonetheless, Mees' hypothesis of a close relationship between *Epapterus*, *Auchenipterus*, and *Pseudepapterus* is reasonable within the context of our present knowledge of relationships within the Auchenipteridae, particularly in light of the problems inherent in uniting groups on the basis of loss characters (e.g., absence of an adipose dorsal fin). Further studies involving more inclusive phylogenetic hypotheses are necessary to analyze the significance of these evident homoplasies within the Auchenipteridae.

The lack of comparative material of *Pseudepapterus* makes it impossible to analyze possible phyletic relationships among that genus, *Auchenipterus* and *Epapterus*, or to comment further on the question of the distinctiveness of *Pseudepapterus* versus *Auchenipterus* that was raised by Böhlke (1951).

Remarks.—Sexual dimorphism has not been previously reported in *Epapterus*. Both of the specimens available to Cope (1878) when he first described *Epapterus* and its single contained species, *E. dispilurus*, were males. Fowler (1939) apparently did not notice the differences between his specimen from Contamana, a female, and the male ANSP syntypes of Cope. The type series of Steindachner's (1881) *Euanemus longipinnis*, alternatively, were all females. A comparison of the Cope and Fowler specimens and recently collected individuals from Peru and Brazil (see "Comparative material examined") reveals that *Epapterus dispilurus* shares the sexually dimorphic modifications of the dorsal and anal fins, and maxillary barbel form described above for *E. blohmi*. A single, very large male *E. dispilurus* (USNM 261388, 103.8 mm SL) differs from the smaller available males of that species and *E. blohmi* in having the dorsal spine distinctly lengthened in addition to being thickened. Such a lengthening of the spine is not apparent in similarly-sized *E. dispilurus* females. The extent of the maxillary-barbel ossification is also more pronounced in the large male specimen of *E. dispilurus* in which the ossified portion of the barbel extends posteriorly beyond the vertical through the posterior limit of the orbit. Risso and Risso (1962) did not note any sexual dimorphism in *E. chaquensis*, although the examination of a larger series of specimens would presumably reveal modifications in the males of that species comparable to those in *E. blohmi* and *E. dispilurus*.

All specimens of *E. dispilurus* previously reported upon (Cope 1878; Steindachner 1881 [as *Euanemus longipinnis*]; Eigenmann and Eigenmann 1888; and Fowler 1939) are from the western portions of the Rio Solimões (upper Rio Amazonas), either in Peru or in the region along the Peruvian-Brazilian border. Two individuals examined (USNM 261422) extend the range of the species to the Manaus area, approximately 1400 kms downstream. A single specimen of *Epapterus chaquensis* from the Río Negro of the Río Paraguay system of Paraguay (USNM 232304) represents the first record of the genus in that country.

Ecology.—*Epapterus blohmi* was collected from a variety of aquatic habitats in the central llanos of the Río Orinoco basin. These included the margin of the main stream of the Río Portuguesa, small drying stream beds, artificial ponds in gravel excavations, and a large shallow lagoon (the holotypic locality). The water in all settings was turbid with little visibility and was either still or slow-flowing. The presence of *E. blohmi* in gravel excavations distant from natural permanent

standing waters indicates that the species disperses across the flooded llanos during high-water periods. Examination of stomach contents of a limited number of specimens indicated that the species feeds extensively on filamentous algae and other small-sized plant matter during the dry season.

Etymology.—The specific name, *blohmi*, honors Sr. Tomas Blohm of Caracas, Venezuela, whose generosity in making available the facilities of his ranch, Fundo Pecuario Masaguaral, greatly facilitated research associated with this study.

Comparative material examined.—*Epapterus dispilurus*: ANSP 21353–4, 2, Peru, Nauta, syntypes of *E. dispilurus*; ANSP 103412, 1, Peru, Contamana; USNM 263114, 1, Peru, Río Ucayali, Pucallpa; USNM 263115, 5, Peru, Río Ucayali, Utoquinia; USNM 261388, 6, Peru, Río Aguaytia, Nuevo Requena; MCZ 9834 and 33450, 4, Brazil, Rio Hyavary [=Rio Javari], syntypes of *Euanemus longipinnis* (= *Epapterus dispilurus*); USNM 261422, 2, Brazil, Ilha da Marchantaria. *Epapterus chaquensis*: USNM 232304, 1, Paraguay, Río Negro.

Acknowledgments

We would like to thank W. Saul (ANSP) and K. Hartel (MCZ) for the loan of specimens associated with this study. H. Ortega of the Universidad Nacional Mayor de San Marcos, Lima made available an extensive series of Peruvian material of *Epapterus dispilurus*, and P. Bayley of the Illinois Natural History Survey donated the central Amazonian specimens of that species. The Paraguayan specimen of *Epapterus chaquensis* was collected during the Biological Survey of Paraguay carried out under the auspices of the Servicio Forestal Nacional de Paraguay. A. Machado-Allison and L. Agauna (MBUCV), and O. Castillo and his associates at the Estacion de Investigaciones Pesqueras, San Fernando de Apure, assisted in the survey that collected the major portion of the type series of *Epapterus blohmi*. A. Machado-Allison also provided the Spanish translation of the Abstract. Sr. Tomas Blohm generously made available the facilities of his ranch as a base of operations for collecting activities on that site and in the surrounding region. Field studies associated with this research were supported by the Venezuela Project of the International Environmental Sciences Program of the Smithsonian Institution. Rosemary A. Calvert prepared the drawing of the holotype of *Epapterus blohmi*. Suggestions for the improvement of earlier drafts of this paper were provided by S. H. Weitzman and J. R. Gomon.

Resumen

Una nueva especie de bagre auchenipterido del género *Epapterus* es descrita de la región central de los Llanos de Venezuela pertenecientes a las cuenca del río Orinoco. *Epapterus blohmi* se distingue de *E. dispilurus* y *E. chaquensis*, por la presencia de una banda oscura que se extiende a través de la porción dorsal de los radios procurrentes y del lóbulo dorsal de la aleta caudal. Las especies congénéricas poseen una pigmentación discreta en forma de mancha en el centro de cada lóbulo caudal. Diferencias morfológicas y merísticas permiten diferenciar mas aún las especies. *Epapterus blohmi* y *E. dispilurus* poseen un pronunciado dimorfismo sexual en la forma de los radios anteriores de la aleta anal, la posición de la apertura urogenital, la forma de la espina dorsal y el grado de osificación de la barbilla maxilar. *Epapterus dispilurus*, previamente conocida solo de la

región alta del río Solimoes, es reportada por primera vez para la región central del río Amazonas. La distribución conocida de *E. chaquensis* descrita para Argentina, es extendida para incluir los ríos de Paraguay.

Literature Cited

- Bleeker, P. 1863. *Systema silurorum revisum*.—*Nederlandsch Tijdschrift voor de Dierkunde* 1:77–112.
- Boeseman, M. 1952. A preliminary list of Surinam fishes not included in Eigenmann's enumeration of 1912.—*Zoölogische Mededeelingen* 31:179–200.
- Böhlke, J. 1951. Description of a new auchenipterid catfish of the genus *Pseudepapterus* from the Amazon basin.—*Stanford Ichthyological Bulletin* 4(1):38–40.
- Cope, E. D. 1878. Synopsis of the fishes of the Peruvian Amazon obtained by Professor Orton during his expeditions of 1873 and 1877.—*Proceedings of the American Philosophical Society* 17: 673–701.
- Cuvier, G., and A. Valenciennes. 1840. *Histoire naturelle des poissons*. Volume 15, xxiv + 397 pages.
- Eigenmann, C. H., and R. S. Eigenmann. 1888. Preliminary notes on South American Nematognathi. I.—*Proceedings of the California Academy of Sciences* 1:119–172.
- , and ———. 1890. A revision of the South American Nematognathi or cat-fishes.—*Occasional Papers of the California Academy of Sciences* 1:1–508.
- Fisher, H. G. 1917. A list of the Hypophthalmidae, the Diplomystidae, and some unrecorded species of Siluridae in the collections of the Carnegie Museum.—*Annals of the Carnegie Museum* 11: 405–427.
- Fowler, H. W. 1939 (1940). A collection of fishes obtained by Mr. William C. Morrow in the Ucayali River basin, Peru.—*Proceedings of the Academy of Natural Sciences of Philadelphia* 91:219–289.
- Ihering, R. von. 1937. Oviducal fertilization in the South American catfish, *Trachycorystes*.—*Copeia* [for 1937]:201–205.
- Kner, R. 1858. *Ichthyologische Beiträge*.—*Sitzungsberichte der Akademie der Wissenschaften Mathematisch-Naturwissenschaftliche Klasse*, Wien 26 [for 1857]:373–448.
- Mees, G. F. 1974. The Auchenipteridae and Pimelodidae of Suriname (Pisces, Nematognathi).—*Zoologische Verhandlungen* 132:1–256.
- Miranda Ribeiro, A. de. 1918. Tres generos e dezeseite especies novas de peixes brasileiros.—*Revista do Museu Paulista* 10:629–646.
- Miranda Ribeiro, P. de. 1968. Sobre o dimorfismo sexual no gênero *Auchenipterus* Valenciennes, 1840.—*Boletim do Museu Nacional do Rio de Janeiro, Zoologia* 263:1–14.
- Myers, G. S. 1947. The Amazon and its fishes. . . Part 2. The Fishes.—*The Aquarium Journal* 18(4): 13–20.
- Risso, F. J. J., and E. N. P. Risso, 1962. *Epapterus chaquensis*, nueva especie de Auchenipteridae (Pisces, Nematognathi).—*Notas Biológicas de la Facultad de Ciencias Exactas, Físicas y Naturales, Corrientes* 3:3–8.
- Steindachner, F. 1881. Beiträge zur Kenntnis der Flussfische Südamerika's, III.—*Denkschriften der Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Klasse*, Wien 44(1): 1–18.
- . 1915. Beiträge zur Kenntnis der Flussfische Südamerika's, V.—*Denkschriften der Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Klasse*, Wien 93:15–106.

(RPV, SLJ) Department of Vertebrate Zoology (Fishes), National Museum of Natural History, Smithsonian Institution, Washington, D.C., 20560; (DCT) La Universidad Experimental de los Llanos Occidentales Ezequiel Zamora (UNELLEZ), Guanare, Portuguesa, Venezuela; (CRG) Florida State Museum, University of Florida, Gainesville, Florida 32611.